

request. The documentation does not sufficiently describe the products and services being requested, so we cannot determine the eligibility of your request.

Please provide more detailed documentation, such as the portion of the bill that identifies the actual products and services being delivered. If the bill you receive does not identify the specific products and services being delivered, you will need to contact your vendor and request such documentation. The vendor should be able to provide you with a detailed bill identifying the specific products and services being provided, which is sometimes called a C.R.I.S. Report.

Any documentation provided should clearly identify any ineligible charges that were cost allocated out of your request. If you are unable to justify the charges requested on your Form 471, the request may be reduced or denied.

2.) On your original Form 471 you indicated that no technology plan is needed because you were applying for basic local and long distance telephone service only. However, your Form 471 requests discounts on services other than basic local and long distance services [CENTREX] .

The rules of this support mechanism require an entity to have a written technology plan, consistent with the products/services requested on your Form 471, in order to receive support for services other than basic local and long distance service. Please answer the following question, and provide the requested documentation as indicated.

Does your school/library have a written technology plan, which is consistent with the products/services requested on your Form 471, covering the entire applied-for Funding Year? If so, please provide a copy of your written technology plan. If you do not have a written technology plan, please respond in writing (by fax or by email) that you do not have a written technology plan.

For additional information on Technology Planning, please refer to the USAC Website:  
<http://www.sl.universalservice.org/reference/TechnologyPlanningFAQ.asp>

Please fax or e-mail the requested information to my attention. If you have any questions, please feel free to contact me.

It is important that we receive all of the information requested so we can complete our review. Failure to do so may result in a reduction or denial of funding.

Please send the requested information within seven calendar days. If you need additional time to prepare your response, please let me know as soon as possible.

Thank you for cooperation and continued support of the Universal Service Program.

Sincerely,

Zoilo A. Magpile  
PIA - Team 7  
Schools And Libraries Division  
Program Integrity Assurance  
Phone: 1-973-560-4489  
FAX: 1-973-599-6578  
e-mail address : [zmagpil@sl.universalservice.org](mailto:zmagpil@sl.universalservice.org)

Elizabeth McGonagle

Subject:

RE: FW: E-Rate Application# 406505

RECEIVED & INSPECTED

DEC 13 2005

FCC - MAILROOM

To: Zoilo A. Magpile,

This note is to confirm our discussion regarding FRN 1113820 & 1113851.

The latest Centrex agreement under Massachusetts ITT18 has resulted in a reduction of the Dedham Public School's basic monthly telephone service to an amount of approximately \$2848.66 per month. Therefore, please reduce the eligible monthly pre-discounted amount on FRN 1113820 to \$2848.66 per month for a total program year pre-discounted amount of \$34,183.92.

As you requested, I have asked for copies of the telephone invoice detailing the telephone services provided from our town hall finance department and will forward this to you as soon as I receive it.

Regarding the long distance services listed in FRN1113851, this remain unchanged. I have requested a copy of a long distance invoice from our town hall finance department as well and will forward it to you as soon as I receive it.

Finally, I had forwarded to you the letter from the Massachusetts Department of Education confirming that our Technology Plan was approved by state through December 2004. The next round of Massachusetts Technology Plans must be filed electronically by November 19, 2004 and I am currently completing that process. The state will then notify the school district regarding the acceptance of the plan before December 31, 2004.

Sincerely,

Liz McGonagle

Elizabeth McGonagle  
Administrator of Technology  
Dedham Public Schools  
Telephone: 781-326-5622 #21

-----Original Message-----

From: Zoilo Magpile [mailto:zmagpil@sl.universalservice.org]  
Sent: Friday, November 12, 2004 3:26 PM  
To: emcgonagle@dedham.mec.edu  
Subject: Re: FW: E-Rate Application# 406505

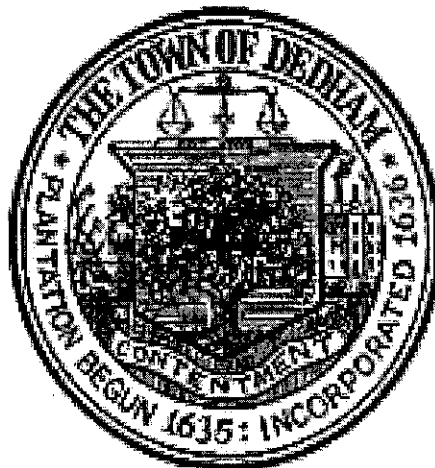
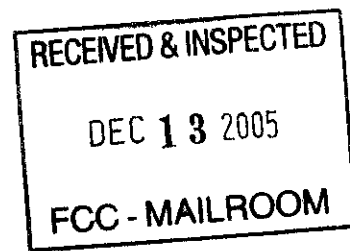
Dear Ms. McGonagle,

I have checked your Verizon bill:

Account 781 320 8755 amounting to 3,698.32 has notes "school - 1,818.24"  
Account 781 751 9100 amounting to \$1, 030.42  
Total supporting bill = \$2,848.66  
Your request per FRN1113820 = \$3,325.00  
Unsupported = \$476.34

Further documentation needed :

- Please provide page 3 or more of the bill for details of charges
- Please provide higher bill to support request, otherwise, please advise reduction accordingly.



# Dedham Public Schools Technology Plan

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## Appendix

## **Dedham Public Schools Vision Statement**

The Dedham Public Schools, the first publicly funded school system in the United States, is built on a foundation of community involvement, communication, and support. We are a student-centered organization committed to excellence, characterized by compassion, trust, credibility, and respect for diversity. Our students are prepared to contribute in an ever changing, global society with personal integrity, confidence, and high academic achievement.

## **Dedham Public Schools Mission Statement**

Technology is a powerful and flexible learning tool that can be effectively applied to many learning environments, but it must be part of a larger strategic plan for school improvement. The mission of the Dedham Public Schools is to provide the opportunity for all students to excel and prepares them to be responsible life-long learners. As explicitly stated in the Strategic Plan, we believe in using technology as a tool to enhance learning.

The Dedham Public Schools recognize the importance of the astounding technology changes, which have occurred within the past decade. Since 1994, a Technology Committee, comprised of various school and community leaders, has addressed the need for implementation of technology in the classrooms throughout the school system. As time has progressed, and technology has improved, the scope of the committee's vision has widened. The diffusion of technology into our schools is no longer a desire, but a necessity. Dedham is perched upon a window of opportunity, anxious to open our classrooms to include the community, and the world.

## **History of the Technology Plan**

In November of 1994, a Technology committee was created to develop a system-wide Technology Plan. The Superintendent invited a variety of staff members from all levels of the Dedham schools. The committee included technology coordinators, technology teachers, staff members from various curriculum areas including Science, Reading, Math and Social Studies as well as Media Specialists, Occupational Educators and Principals. After several months were devoted to the discussion of the Mission Statement and Statement of Philosophy for the Dedham Public Schools, the Technology Committee finalized the key principles to guide the Technology Plan. These principles support the state's Task Force 2000 goals. The Committee, including representatives from the community, employed in the field of technology and communications, worked with the Superintendent to develop a comprehensive vision for the role of technology in the Dedham School system. Input from all the stakeholders was key in the creation of this plan; and at all levels, technology applications were to be driven by the curriculum frameworks.

The Technology committee then gathered the facts needed to build an effective technology plan and assess the current state of technology instruction.

Staff and students were surveyed. Ideas and information were then shared with department chairs and curriculum committees. Members of the Technology Committee visited exemplary schools, and attended workshops for

From this the Educational Technology Instructional Goals, the backbone of Dedham's plan, were written. These goals, as all of Dedham's Technology goals, are curriculum driven and support the MA curriculum frameworks.

Finally, a timeline and budget was developed. These needs have been revised annually as technology goals are accomplished and their attendant needs change, but the educational goals and commitment to excellence we hope will remain constant.

## Community Demographics

Dedham is an historic suburban town located south of metropolitan Boston, and is the site of the earliest surviving wood -framed house in New England, the 1737 Fairbanks House. The 10.7 square mile community received its grant as a town from the Massachusetts Bay Colony in 1636, making it one of the oldest communities in the state.

(<http://www.state.ma.us/dhcd/ipofile/073.pdf>) It is the county seat of Norfolk County. Dedham is the home of the first taxpayer-funded public schools in the United States and the first man-made canal, Mother Brook, which linked the Charles River to the local mills.

(<http://www.worldhistory.com/wiki/D/Dedham,-Massachusetts.htm>)

As of the census of 2000, there are 23,464 people, 8,654 households, and 6,144 families residing in the town. There are 8,654 households out of which 30.1% have children under the age of 18 living with them. The average household size is 2.61 and the average family size is 3.14. In the town the population is spread out with 22.2% under the age of 18, 5.8% from 18 to 24, 31.1% from 25 to 44, 24.2% from 45 to 64, and 16.6% who are 65 years of age or older. The median age is 40 years. The median income for a household in the town is \$61,699, and the median income for a family is \$72,330. The per capita income for the town is \$28,199. In Dedham 4.6% of the population and 3.2% of families are living below the poverty line. Out of the total people living in poverty, 3.9% are under the age of 18 and 6.5% are 65 or older. (<http://www.worldhistory.com/wiki/D/Dedham,-Massachusetts.htm>)

There are 7 public schools serving a total population of 2983:

- ✓ Dr. Thomas Curran Early Childhood Center (Grades PK - K)
- ✓ Avery Elementary School (Grades 1-5)
- ✓ Greenlodge Elementary School (Grades 1-5)
- ✓ Oakdale Elementary School (Grades 1-5)
- ✓ Riverdale Elementary School (Grades 1-5)
- ✓ Dedham Middle School (Grades 1-5)
- ✓ Dedham High School (Grades 1-5)

As an alternative to the academic High School program, selected students also attend the Blue Hills Vocational School in Canton. The town recently completed a grade reconfiguration to adapt to this increasing population of the lower grades. The 8<sup>th</sup> grade students were moved from the Middle School to the High School and the school department explored the concept of building a new middle school

## **School Rehabilitation Committee Overview**

by Superintendent Antonio Fernandes

In December 2000, at a special town meeting, two articles were submitted and approved to establish a School/Rehabilitation Committee and to appropriate the sum of \$125,000 for the purpose of funding the study to evaluate the current physical condition of the school buildings and to make recommendations to the town as to rehabilitation and/or expansion projects. In June 2001, the New England School Development Council (NESDEC) entered into an agreement with the Dedham School Building/Rehabilitation Committee and School Committee to develop a report leading to a Long-Range School Facilities Master Plan for the Dedham Public Schools. The scope of the work included an analysis of the present and projected future school facilities needs in relation to the school system. The NESDEC Project Team visited and observed all of the schools while in session, conferred with a number of school and municipal officials, real estate and development people, and collected and analyzed a substantial amount of school and municipal data. The New England School Development Council conducted two town-wide meetings for the purpose of collecting additional data from the community at-large, and to present their final report. A Long Range School Facilities Plan was then submitted to the School Committee and the School Building/Rehabilitation Committee. The report contained the following information.

- Demographic Analysis and Enrollment Forecasts
- Analysis of School Facilities and Planned Operating Capacities
- A statement of the Problem
- Alternative Solutions with Grade Configurations and Cost Estimates
- Suggested Criteria for Evaluating the Options
- Special Considerations
  - Full-Day Kindergarten/Early Childhood Education
  - Technology Needs

- Site Issues
- Redistricting Guidelines

➤ Suggested Phased Implementation Sequence

In March of 2001, we developed the districts' first Strategic Plan. We were extremely excited and confident that this document would serve as a guide to success. The mission statement, vision statement, objectives, and beliefs would assist us in accomplishing specific goals. The Strategic Plan allowed us to stay focused on the issues at hand. Specifically, a goal within our plan addresses the need to modernize and improve our facilities to support the educational process. As a result of this goal, the necessary steps and actions were taken by the community and school district to begin the process of fulfilling the specific objectives for this goal. Our charge was to review and implement the school district's safety plan, review and analyze the pending feasibility study, and to develop a preventative building maintenance program. I am happy to report that a course of action was developed to address each specific objective.

The Building Rehabilitation Committee continued their study to assess the needs of each school facility, and to make appropriate recommendations to address what is needed to support and provide an appropriate learning environment for the future. Guided by Dedham's Educational Model, it had been determined that functional school settings for today and tomorrow should be capable of supporting the following learning environment:

- A strong technological environment
- Current academic standards, as defined by the Federal and State educational guidelines.
- Active Learning
  - Laboratories
  - Hands-on activities
  - Community connections (real world applications)
  - Inquiry based (investigation, research)
  - Interdisciplinary
  - Sustained projects
  - Teacher directed and student directed instruction



As a result of the ongoing work of the Building Rehabilitation Committee, it was determined that the current middle school was deficient in supporting an appropriate educational environment. The recommendation from the committee, upon assessing the costs associated with various building options, was to recommend the construction of a new middle school. In August 2002, the Dedham School Committee and the Building Rehabilitation Committee entered into a contract with the architectural firm of Dore & Whittier. Through this contractual agreement it was expected that the firm of Dore & Whittier would assist us in the development of a Long-Range Schools Facilities Feasibility Plan, present projected costs associated with new construction, and develop design work of a new middle school to enable our district to submit an application in June of 2003, to the Department of Education for financial assistance associated with the construction of the proposed grade 6-8 middle school.

The School Building Rehabilitation Committee continued their work to proceed with proposing the construction of the new middle school. Working in conjunction with the architectural firm Dore & Whittier, a proposed middle school complex was designed. This state-of-the-art proposal was then presented to the community for consideration, and, in June of 2003, the Town of Dedham approved the warrant for its construction. This past fall, we received official notification from the School Building Assistance Bureau that we were awarded approximately 62% reimbursement from the State to construct our new middle school.

As we anxiously wait for the completion of our grades 6-8 middle school, we are excited about the expanded offerings we can provide our students. We believe that this age/grade configuration is the most suitable for a middle school model utilizing a team approach. The three-year grade span will allow for students and their families to become more committed to and involved in the philosophy and culture of a true middle school. I am very excited knowing that this state-of-the-art facility will afford us to further develop the following:

- *Clustered or thematic learning communities*
- *Grade level team meetings*
- *Expansion of curricular offerings*
- *Active learning*
- *Expansion and integration of technology and science*
- *Expansion of the library and media facility*
- *Community access*
- *Ability to meet state and national standards*
- *Establish a middle school philosophy and culture*

Now that the construction of our new 6-8 middle school has begun and that Keville Interprises, Inc. has joined our team to oversee the construction phase, we are optimistic that we will be able to open the doors of this amazing facility for the beginning of the 2005-2006 school year. (Note: the new estimated completion date is April 2006)

## **Focus Groups on Technology for the New Dedham Middle School**

The Dedham Public Schools recently sponsored a series of focus groups to assess the technology needs of the new middle school. Parent, teachers and administrators participated in focus groups under the direction of CELT Vice President, Laurie Keating.

A series of focus group meetings was held at the Dedham Middle School to discuss the current status of technology and the vision and goals for the new building. Among those who participated were Mr. Antonio Fernandes (Superintendent), June Doe (Principal), and Cynthia Kelly (Assistant Principal), along with several teachers, Special Education teachers, parents, and the Technology Director, Liz McGonagle.

### **Teacher Workstations**

A discussion was held to determine teachers' preferences for the distribution of the computers in the new middle school building. Most teachers expressed a preference for a teacher workstation in each classroom connected to projector and interactive whiteboard. Also connected to the workstation would be a console to control the input source with a VCR and, in some cases, a document camera. In order to provide ultimate flexibility for the teachers, it was felt that the workstation would be in the form of a laptop with a docking station so that teachers could have more mobility with their computers, taking them to meetings, training, or home when needed. Rooms will be wired for voice, video, and data and will have cable access.

**Recommendation:** Teacher workstation in each classroom consisting of laptop with writable-CD drive, a docking station connected to a ceiling-mounted LCD projector, and interactive whiteboard. These computers should have a standard teacher software configuration that will enable full productivity from any workstation. Also include a console to control the input source with a video cassette player configured for a [shared] document camera. Rooms will be wired for voice, video, and data and will have cable access. Each classroom will have a black-and-white laser printer.

### **Classroom Configuration**

The options discussed were five student computers per classroom, mobile laptop carts, computer labs, and handhelds. Many teachers prefer to take a class to the computer lab or library rather than distribute laptops from a laptop cart because it saves the extra steps of passing out the laptops, confirming that they are functioning and charged, and collecting them at the end of the activity, but find that they must sign up for the computer lab two weeks in advance, so this is not always a viable solution. The issue of charging batteries is usually not a problem, but the issue of "wandering mice" is sometimes a problem with the wireless solution. There is a strong interest in wireless tablets so that the teacher can move around the classroom and project on the SMART Board™ and the "student response systems" which enable teachers to quickly assess students during a lesson.

**Recommendation:** Mobile laptop carts will extend opportunities for classroom activities. At the minimum, there should be two per floor. These can either be configured as 24 units per cart or two carts of 12. Each classroom should be

equipped with a minimum of two student computers in addition to the teacher workstation. These computers should have a standard student software configuration that will enable full productivity from any workstation. A wireless tablet and a student response system should be available for each team and also in each computer lab.

### **Computer labs vs. Mobile environments vs. Classroom computers:**

A discussion was held to consider the preferences of the staff for the configuration of the computers. There are three computer labs designed in the new building – one for each grade. Under the present schedule, grades 7 and 8 meet two of the six days in the rotation. The labs have 22 stations, and there is an average of 25 students per class. Computer teachers assign laptops from one of the mobile carts to the “overflow” students in each class so that each student has a workstation. Increased class size is not an issue in Dedham as the projected population growth is a flat line.

**Recommendation:** There will be one computer lab on each floor (i.e., one per grade), each of which should house 24 workstations. These computers should have a standard teacher software configuration that will enable full productivity from any workstation. Like the classrooms, each computer lab should be configured with a teacher workstation consisting of laptop with writable-CD drive, a docking station connected to a ceiling-mounted LCD projector, and interactive whiteboard. These computers should have a standard teacher software configuration that will enable full productivity from any workstation. A wireless tablet and a student response system should be available for each computer lab. Each computer lab will have a color laser printer.

### **Media Center**

The media center in the new building will be large enough for two classes, so scheduling space will be less of an issue. The Media Center will continue to store and “check out” a variety of peripheral and support equipment such as overhead projectors, digital cameras, and document cameras. One computer should have an oversized monitor to facilitate large font size without having to scroll down or across to see the entire screen.

**Recommendation:** Media center should have a minimum of 24 computers in one area for research projects 12 additional in another area for library class use. Two scanners will be networked in the media center along with a color laser printer. In addition, AV equipment such as overhead projectors, digital cameras, and document cameras will continue to be catalogued and stored there. Videos will continue to be pre-recorded in the media center on the district’s playback system.

Explore the option of keeping the school open for evening classes – or for students to access library materials and electronic resources.

### **Related Arts**

Due to their unique content area, the related arts programs have individual requirements that can be met to support their programs. The Music department would like a 10 to 12 station lab with midi keyboards to use with Sibelius and Garage Band software. The band

and chorus class would also like access to workstation with SmartMusic instrumental music software. (Note: newer Macintosh computers that do not have a built-in microphone require a USB microphone to use with SmartMusic. The Technology Education classes would like a 10-12 station lab to use with the engineering software that is part of their curriculum. They have proposed sharing space with the Music Department. One goal of the faculty and administration is to set up a television studio to be used to enhance skills in journalism by creating a daily news program. Students would improve their writing skills and their presentation skills. Additional opportunities could be attained by partnering and mentoring with high school and the local cable channels, Comcast and RCN.

**Recommendation:** A ten- to twelve- station computer lab will service the Music and Technology Education classes. These would be equipped with the software needed for their specific classes in addition to the standard student software bundle. Midi keyboards will also be needed for the music classes and USB microphones for the Band/Chorus classes. If the Band/Chorus is unable to share with Music due to scheduling conflicts, then two or three student computers should be added to the Band/Chorus room with SmartMusic and USB microphones.

A portable TV studio with editing stations can be set up in a room that has one wall painted “chromakey green” in order to facilitate the superimposing of various backgrounds in back of the presenters. This will provide greater options for variety in video-journalism. Give the time involved in producing a news spot is recommended that the initial broadcasts be scheduled on a bi-weekly or monthly basis.

### **Distance Learning**

A distance learning center has been designed for the new middle school with video-conferencing equipment and seating for an entire class. The middle school teachers have had extensive training and experience with the use of Blackboard for distance learning and look forward to adding the dimension of video-conferencing and electronic field trips to their courses.

**Recommendation:** As the cost of the distance-learning center has been raised as a factor that may be problematic, the school should consider renting the space for professional development activities or videoconferences to local businesses or to other districts that might need this function.

### **Special Education**

The Special Education Department uses Kurzweil software and would like additional computers. In addition, they use Lexia and Skills tutor. They are interested in learning about reading pens for assistive technology and language translation.

**Recommendation:** Ten computers are needed for the resource room in order to provide students with the optimal access to the technologies that they need to succeed. Like core curriculum classrooms, the Resource Rooms should be equipped with an interactive whiteboard and LCD projector. Adaptive

technologies for the visually impaired will be needed – for example, one computer should have an oversized monitor to facilitate large font size without having to scroll down or across to see the entire screen.

### **Foreign Language Needs**

The foreign language teachers are currently using an outdated language lab that is more than twenty years old, has been moved previously, and is virtually obsolete.

Recommendation: Install a new language lab for the Foreign Language department. If it is not possible to completely outfit initially, it should at least be wired at this time so that the equipment can be installed at a later date.

### **Miscellaneous**

Various departments have requested materials that will support their instructional programs. The following are recommended:

**Recommendations:** TI graphing calculators for the Math department with the TI Viewscreen to display on the wall. GPS software for the Social Studies department.

### **Conclusion**

At the parent meeting, a discussion was held about what the priorities are for funding if choices have to be made and some items must be postponed on this budget. The following hierarchy was agreed upon:

1. Support (humanware) —They would rather have fewer machines and more support.
2. Facilitate the use of technology through professional development and the use of students as teachers and tech supports.
3. Follow teachers' preferences – let teachers determine whether they prefer computer labs, mobile laptop carts or more classroom computers.
4. Fund Computer labs first, then wireless labs, then multiple computers per classroom – kids don't need to be plugged in for 6 hours per day.

### **Dedham Public Schools Program Offerings**

The Dedham Public Schools endeavor to serve the variety of needs present in the student body. Among the program and support offerings are the following:

- Advanced Placement courses in Biology, Calculus, Chemistry, Computer Education, English, French, Spanish, Mathematics, Physics, Psychology, Social Studies, and U. S. History
- Adjustment counselors K - 5
- After School Elementary Programs at each school
- Art and Music programs K - 12
- Athletic offerings
- Computer Instruction PK - 12
- Developmental Reading programs

- ESL
- Guidance Department Gr. 6 - 12
- Headstart
- State of the art AV center at the High School
- Physical Education and Health programs Gr. K-12
- Science Center for elementary schools
- Special Education PK - 12
- Foreign Exchange Programs
- Family & Consumer Science
- Industrial Technology

Other resources:

Private Schools located in this city/town	<a href="#">Dedham Country Day</a>   <a href="#">Noble and Greenough</a>   <a href="#">Ursuline Academy</a>
Membership - Collaboratives	<a href="#">The Education Cooperative (TEC)</a>
Membership - County Agricultural	<a href="#">Norfolk County Agr</a>
Membership - Vocational Regional	<a href="#">Blue Hills Voc</a>

## The Role of Technology

Technology is a tool that can create opportunities to enhance instruction and improve opportunities to motivate and engage all students in meaningful learning scenarios. It can provide access to infinite amounts of information, and a means to organize and sift through it and identify patterns and trends. It can free learners from mere computation or compilation of data, and create opportunities for higher order thinking skills such as analysis and synthesis of ideas and concepts and project-oriented teaching. Technology can present data using visual models that illustrate complex concepts and bring experts into the classroom and facilitate collaboration in a way the traditional curriculum materials just can't do.

Research clearly indicates that students in technology rich environments show increased achievement in all major subject areas. (Sivin-Kachala, 1998) Since the implementation of the \$2.3 million Technology Plan in 1999, our school network has grown and matured into a sophisticated fiber backboned network that spans eight buildings with over 1300 computers. The Dedham Public Schools continues to work hard to secure the funding needed to create a technology program and maintain the network infrastructure and hardware needed to meet the rapidly increasing needs of all of our users: students, staff, administration and the community.

## Technology Policies

Please click on the link below to read the Dedham Public Schools' technology policies. You will also find these policies in the Student Handbook.

<a href="#">Student Acceptable Use Policy</a>
<a href="#">Staff Acceptable Use Policy</a>
<a href="#">Email Policy</a>
<a href="#">Internet Safety Policy</a>
<a href="#">Policy for the Use of DPS Computing Facilities</a>
<a href="#">DPS Educational Technology Website</a>

## Technology in the Curriculum

Technology is used as a tool to support the attainment of our learning standards. All of our classrooms are connected to the Internet, and our staff and students have access to nearly 100 software programs via the network. The network also provides virtual learning and storage options through Blackboard.com as well as network file servers that enable all users to store and retrieve documents. The network delivers computer-based assessments that can provide immediate feedback to teachers. Additionally all staff members have email accounts and utilize web-based applications for learning such as Skillstutor and MassLearns.org. The entire staff has participated in thousands of hours of professional development in the use of technology to support and enhance learning.

## Technology in Administration

The administration utilizes technology extensively to provide the organizational support to manage the school district. Technology not only provides an opportunity to improve student achievement, but also has been an essential tool needed to respond to the escalating reporting requirements demanded by local, state and federal authorities. We have rapidly moved from trying to meet the instructional needs of the classroom, to supporting a district-wide student information database, PowerSchool. All of our teachers use PowerSchool to record daily attendance, to create progress reports and to generate report cards. In 2004-05 we implemented a web-based Special Education database application (E-Sped) that will someday integrate with PowerSchool and streamline the IEP input process and related reporting functions that are critical to compliance and funding requirements. The network also provides access to the Town Hall's financial system and the payroll vendor and we are researching a food service point of sale system that will enable students to purchase lunch with an id card. Finally, we are planning for the technology needs of the new Middle School.

## Software

The use of research based software to improve opportunities for learning is an essential component of the No Child Left Behind legislation. The Dedham schools use a blend of instructional tools, content rich software programs, web based subscriptions and the Internet to bring a diverse array of educational resources to our staff and students. All software resources are carefully researched to ensure that the curriculum objectives and learners needs are met. Assistive technology solutions are being expanded into all learning environments to promote the availability of the curriculum to all learners.

Software programs include the following. A list of software currently being utilized by content area can also be found at the link below:

<http://www.dedham.k12.ma.us/elementary/liz/TSTSoftware/index.html>

### Name

Adobe Acrobat Professional  
Adobe Photoshop CS  
Adobe Photoshop Elements  
Blackboard  
Cricksoft - Clicker 4  
DK: Amazing Animals  
DK: I love math  
DK: I love spelling  
DK: USA Explorer  
Dragon Naturally Speaking  
Earobics Professional  
Edmark: Bailey's Bookhouse  
Edmark: Calculating Crew  
Edmark: Carnival Countdown  
Edmark: Millie's Math House  
Edmark: Number Heroes  
Edmark: Sammy's Science House  
Edmark: Trudy's Time and Place  
Edmark: Zoo Zillions  
Fablevision Brain Cogs  
Fablevision: Stationery Studio  
Facts For Learning  
Inspiration  
Kidspiration  
Kurzweil 3000  
Learning.com  
Lexia Early Reading  
Lexia Phonics Based Reading and Strategies  
for Older Students



Lexia Quick Reading Test  
MassLearns.com  
Macromedia Studio  
Mayer Johnson Writing With Symbols  
Microsoft Office 2000  
Sagebrush Pinpoint  
Sagebrush Winnebago Spectrum Circ/cat  
Scholastic Wiggleworks and Wiggleworks  
Plus Level A, B, C  
Scholastic: Reading Counts  
Scientific Learning: Away We Go!  
Skillstutor  
Sunburst: Type to Learn Jr  
Tom Snyder: Community Construction Kit  
Tom Snyder: Diorama Designer  
Tom Snyder: Graph Master  
Tom Snyder: Neighborhood Map Machine  
Tom Snyder: Rainforest Designer  
Tom Snyder: The Graph Club  
Tom Snyder: Timeliner  
McGraw-Hill: Yearly Progress Pro  
United Streaming

### **I-Safe Curriculum**

During the 2004 school year all Library Media Specialists attended training in the I-Safe Curriculum. This curriculum is designed to provide formal instruction to the staff and students about the responsible use of technology, including ethics and safety issues. Please refer to the I-Safe web site for additional information. [www.isafe.org](http://www.isafe.org)

## Hardware

The Department of Education requires that by 2006 districts maintain:

- a student-to-computer ration of fewer than 5 students per high-capacity, Internet connected computer.
- An established computer replacement cycle of six years or less
- Student access to handheld electronic devices appropriate to their grade level

## Student to Computer Ratio as of 2005

Location	Admin. Computers	Instructional Computers	Total # Computers	Student to Computer Ratio
Avery	5	112	119	2.26
Greenlodge	4	101	108	2.95
Oakdale	8	132	140	2.89
Riverdale	6	79	86	2.73
ECEC*	6	64	71	5.69
Middle School	15	172	183	5.61
High School	52	378	385	3.21
Administration*	15	0	15	-
Total	111	1038	1107	

*There are AM and PM classes in this student count which distort the computer/student ratio.*

## Staff Development

While technology can be considered an innovation that can have a positive effect on teaching techniques the successful integration and of technology into the learning environment is critically dependent on the teacher. Today's teacher has an opportunity to apply technology to the mix and create an unparalleled variety of learning situations from simplistic drill and practice activities to complex data driven real time simulations. Innovations like technology require teachers to change what they have been doing and adopt new instructional strategies, and this requires staff development opportunities. Adults need learning objectives to be realistic and important to them, and must perceive that training is relevant and related to their daily activities. These staff development opportunities are planned by the district's Staff Development Committee which is comprised of Administrators, Department Chairs and Teachers and meets throughout the year to evaluate the needs of the staff and plan programs during in-service and staff development meetings.

A Technology Integration Specialist, 6-12 and 5 Technology Aides support the technology integration within the schools. Technology staff development is on-going and

includes coaching, modeling best practices, district-based mentoring and in-service workshops. Some examples of professional development educational opportunities are:

- System wide technology day of training
- 18 hour courses presented during the in-service day workshops
- After school workshops offered by staff
- Communication of educational opportunities outside of the district
- Attendance of conferences and seminars
- Participation in TEC
- Tuition reimbursement
- Vouchers for tuition
- Visits to exemplary schools by staff members

During the 2004-05 school year the technology staff provided support and training for the integration of Yearly Progress Pro in addition to building based support to expand the use of the existing hardware and software. All grades 3 and 4 staff members participated in 10 hours of technology training in Math and Technology presented as part of the in-service professional development training presented by the Elementary Technology Integrator Cailin Reagan and an expert member of the staff 5<sup>th</sup> grade math teacher, Nancy Clement. Additionally all classroom aides and secretaries were offered training in Microsoft Office and Powerschool. At the building level teachers received ongoing training in the use of the new mobile Smartboards and laptop labs.

Members of the secondary staff were able to participate in a program presented by Technology Integration Specialist, 6-12, Paula Marini. This 10-hour workshop was presented during the in-service days and instruction was customized to the needs of the teacher. Topics included the use of Blackboard, Microsoft Office, Digital Photography, the Smartboard and United Streaming, our new digital video subscription. The Department Chairpersons were again provided with customized training in Blackboard and Powergrade in order to expand the technology support available for classroom teachers.

Additionally the Library Media Specialists for 10 hours with the Administrator of Technology, Liz McGonagle. These staff members participated in 8 hours of Web-ex training in the use of the Sagebrush library software. The staff also is working on a new district-wide web page that will support the needs of the staff and students, particularly for developing important life-long research skills.

During the 2005-06 Staff Development initiatives will continue to focus on integration of Technology in the classroom. Sustained staff development on the targeted programs will continue.

Programs include:

In the Information Literacy & Technology Integration course Library Media Specialist will participate in a series workshops focusing on the adoption of the I-Safe Curriculum and strengthening the districts delivery of research skills K-12. Library Media Specialists will also develop web pages that are consistent across the district to support students' research projects.

Blackboard Training will continue to be provided via a self-paced Blackboard course facilitated by Irene Heier. The Mentoring Program will take part in several workshops on Blackboard and the Teacher's Toolkit of software resources available to differentiate instructions.

The secondary staff will once again be able to participate in a program presented by Technology Integration Specialist, 6-12, Paula Marini. This 10-hour workshop was presented during the in-service days and instruction was customized to the needs of the teacher. Topics included the use of Blackboard, Microsoft Office, Digital Photography, the Smartboard and United Streaming, our new digital video subscription. The Department Chairpersons were again provided with customized training in Blackboard and Powergrade in order to expand the technology support available for classroom teachers.

The Technology Department and Industrial Technology Department will participate in a 10-hour I-Life Course presented by master teacher Jim Lengel. The staff will be learning how to use digital video photography as an instructional strategy and will learn how to edit video using I-Movie.

Ongoing training in E-Instruction, Kurzweil, Yearly Progress Pro, Mass Learns, Smartboards and United Streaming will be provided during the day and after school at each building to target teachers who need support using these tools in a classroom setting. The technology staff and aides will continue to provide this on-site training and support.

#### **2006-2007**

The summer programs will once again be offered including:

- Blackboard online course
- Kurzweil online course
- Technology for Techophobes presented by Colleen O'Shea and Heidi Graceffa
- Intel Mater Teacher Program - June 26 – 30, 2005
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### **Intel® Teach to the Future Workshop on Teaching Thinking With Technology Curriculum Overview**

**Title:** Intel® Teach to the Future Workshop on Teaching Thinking With Technology

**Description:** This modular workshop focuses on enhancing technology integration skills using free, online tools that improve critical thinking and student collaboration. Participants learn to:

- Foster deeper thinking in the classroom
- Create an instructional plan aligned to standards that supports a project approach to learning and authentic inquiry

Teachers leave the workshop prepared to implement a ready-to-use project that integrates technology for higher-order thinking and understanding of

complex ideas.

**Expectations:**

- Attend all sessions of the workshop
- Examine a framework for thinking skills and incorporate those that are most relevant to curricular goals in the development of an instructional plan
- Learn strategies for addressing and assessing higher-order thinking
- Understand the interactive thinking tools and their workspaces and how to manage a classroom project using an online environment
- Identify appropriate topics where visual representation of thinking encourages discussion and understanding of complex ideas
- Prepare instructional strategies to promote effective collaboration and student-directed inquiry
- Create an instructional plan that includes one or more online tools that promote higher-order thinking skills, student learning objectives aligned to standards, and assessment of student work
- Return to the classroom prepared to effectively integrate the *Seeing Reason*, *Visual Ranking*, and/or *Showing Evidence* interactive thinking tools into student activities

**Workshop Length:**

- Master Teachers attend 40 total in-class hours
- Participant Teachers attend 24 to 40 in-class hours (depending on local needs and the number of modules identified by the Master Teacher)

**Entrance Criteria:**

Master Teachers have:

- Intermediate technology skills
- Intermediate technology integration skills, such as those learned through the Intel® Teach to the Future Essentials Course or a comparable technology integration program

Participant Teachers have:

- Basic technology integration skills, such as those learned through the Essentials Course or a comparable technology integration program
  - Access to Internet-connected computers for planning and instruction that are capable of supporting the interactive thinking tools
-

## **Intel® Teach to the Future Workshop on Teaching Thinking With Technology Curriculum Outline**

### **Overview of Complex Thinking**

- Understanding and incorporating higher-order thinking skills
- Using Curriculum Framing Questions to encourage deeper thinking
- Demonstrating thinking with visual representation
- Assessing thinking

### **Using the Visual Ranking Tool in Learning**

- Refining thinking by ordering and prioritizing lists
- Thinking tools' features and classroom strategies
- Building a project; trying an idea

### **Using the Seeing Reason Tool in Learning**

*NOTE: This section of the workshop is optional for Participant Teachers.*

- Understanding cause and effect thinking in complex systems
- Building a project; trying an idea
- Discussing conceptual issues and challenges with causal mapping

### **Using the Showing Evidence Tool in Learning**

*NOTE: This section of the workshop is optional for Participant Teachers.*

- Reviewing argumentation in learning
- Building a project; trying an idea
- Understanding quality and strength of evidence

### **Develop Project Plans**

- Discussing conceptual issues and challenges across the tools
- Developing project plans
- Creating assessment that aligns with open-ended project work

## **Technical Support**

The Department of Education requires that by 2006 districts:

- Ensures that same-day in-classroom technical support is available
- Technology problems that cause a disruption to curriculum delivery be addressed within 24 hours
- The district employ a dedicated network administrator
- The district provides at least one FTE person or equivalent service, to support every 200 computers

The Dedham Public Schools employs one full time network technician and maintains a service contract with a technical support provider to ensure that technical support is available within 24 hours or less. The district employs a dedicated network administrator. In 2005 the district implemented a web-based TSS Help Desk solution by SmartEDU that has streamlined the reporting and tracking of technology problems and inventory management.

## Network Overview

The Dedham Public Schools has a wide area network that connects all 7 schools and the administration building. Each school also has a local area network. The network backbone utilizes fiber optic cable provided by the local cable company and provides the district with a robust network that allows us to utilize a variety of web-based resources and software. Internet access is available in 100% of Dedham's classrooms and computer labs. In accordance with the Children's Internet Protection Act (CIPA) requirements, all Internet traffic is filtered for pornography and inappropriate material using a firewall provided by MEC, the district's current Internet Service Provider. Additionally the district utilizes Surf Control to monitor all Internet use. Additionally the district use Alteris to remotely install and monitor resources in our network.

## Technology Staffing

As the use of technology has expanded, the demand for support and leadership has expanded. The members of the Technology Department include:

Name	Job Description
Elizabeth McGonagle	Administrator of Technology
Beth Cann	Network Administrator
Mike Dewar	Administrative Network Specialist
Paula Marini	Technology Integration Specialist, K-12
Kathleen Driscoll	Service Technician
Amy Maloof	Elementary Technology Aide
Jim O'Connell	Elementary Technology Aide
Roy Garber	Elementary Technology Aide
Joe Silvi	Elementary Technology Aide
John Spears	Secondary Technology Aide
Irene Heier	Administrative Assistant

The technology staff acknowledges the help and support of the Library Media Specialists and the Library Aides at the secondary schools. Although not formally members of the Technology Department, without the support and cooperation of these staff members student access to technology would be severely limited. The secondary schools have additional technology staff that provides instruction all of the student technology courses.

## Future Staffing Needs:

The new middle school will dramatically increase the number of computers and other peripherals that need to be supported. A budget request has been made to add 1 FTE Technology Aide and 1 FTE Audio Visual Specialist/Distance Learning Center Coordinator to support the new middle school. If not funded by the school department budget then other means of funding will need to be studied to ensure that adequate technology support will be available to assist the staff.

**Budget:**

The technology program is funded through the School Department Budget, Title grants, E-Rate Funds and Capital Expenditure funds from the Town of Dedham.

**E-Rate**

E-Rate funds provided by the Universal Service Administration Company and we gratefully acknowledge this help to fund the following:

- Internet, Filtering and Firewall Services provided by MEC
- Centrex Telephone Service for all of the Dedham Public Schools

**Technology Goals**

We will continue to work towards the fulfillment of the goals set forth in the Dedham Public Schools Strategic Plan through the integration of technology to:

*Goal 1: To improve student performance and achievement*

- Acquire and install research based software applications to support and assist all learners
- Obtain wireless technology solutions to increase access to technology in all buildings
- Expand the use of PowerSchool to develop procedures using technology for saving, organization and sharing student diagnostic test results with the staff
- Provide ongoing technology staff development to increase the use of technology to differentiate instruction, improve communication and support the district-wide assessment initiatives
- Expand the use of web based applications to create opportunities for integrated ubiquitous learning and on-going assessment
- Expand the use of assistive technology to seamlessly support and challenge all learners when and where it is needed
- Continue the development and delivery of differentiated instruction that integrates technology and literacy across the curriculum based upon the standards developed by the Dedham Public Schools and in accordance with the Massachusetts Curriculum Frameworks.
- Participate in the elementary and secondary Curriculum Committees to embed technology in the district's standard's based curriculum goals.

*Goal 2: To establish and effective communication system.*

- Utilize technology to communicate more effectively between the staff, administration, students and the community
- Expand and improve the district web site to make it more user-friendly and useful



- Continue to refine, communicate and embed the Technology Goals and Standards into instruction across the curriculum

## **Technology Staff Goals for 2005-06**

The following are the specific goals for the technology staff for the 2005-06 school year:

Goal 1:

Provide technology staff development opportunities for teachers that are designed to model the integrated use of the district's technology resources for instruction and assessment to support and enhance the curriculum.

Goal 2:

Increase the utilization of assistive technology solutions to support student achievement.

- Train all technology aides in the utilization of Assistive Technology resources such as Kurzweil, Dragon Naturally Speaking, and keyboard and/or visual modifications.
- Increase the collaboration between technology staff and the Special Education staff to support and promote the ubiquitous use of assistive technology accommodations in daily teaching and learning

Goal 3:

Provide instruction about Internet safety awareness to the staff, students and DPS community.

- Library Media Specialists will implement the I-Safe curriculum district-wide presenting information on topics such as identity protection, copyright issues and plagiarism
- District will host a community Internet Safety Awareness Evening to educate the community about the benefits and perils of the Internet
- Develop a Library Media web page to support student use of the Internet at school and home

Goal 4:

Continue to upgrade the network infrastructure including:

- Replacement of out of warranty switches and servers
- Replacement of out of warranty computers as funded by Capital Expenditures

Goal 5:

Prepare and implement the final technology plan for the new Dedham Middle School.

## **Current Curriculum Status and Technology**

Instructional technology is an important strategy to differentiate instruction. Technology resources, strategies and opportunities for learning are embedded in all of the curriculum development currently being developed throughout the district.

## **Summary of Technology Used for Differentiation and Assessment**

by Paula Marini, Technology Integrator

Inspiration (graphic organizer tool)	<input type="checkbox"/> Graphic organizers for brainstorming, categorizing, and developing supporting detail. <input type="checkbox"/> Teacher modeling, student creation of organizers to
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